

New treatment eradicates 'incurable' blood cancers

Oliver Moody Chicago

Two kinds of incurable blood cancer have been eradicated in more than two out of three patients by a therapy that turns the body's defences against tumours.

Over the past five years scientists have become increasingly good at taking out patients' immune cells and tweaking them into a genetically modified drug that can hunt down cancer.

In 2015 a pioneering form of the therapy saved the life of Layla Richards, a one-year-old girl with aggressive leukaemia, at the Great Ormond Street Hospital in London.

Researchers at Pennsylvania University hospital in the US have wiped out another kind of leukaemia in eight out of nine high-risk patients with a new version of the treatment.

Chronic lymphocytic leukaemia (CLL) is the most common kind of the blood cancer in adults, killing 1,000 people a year in Britain. Most patients are given the drug ibrutinib, but in

60 per cent of cases it works only partially. Even when the disease is stabilised, patients have to take the drug for their rest of their lives, sometimes suffering side-effects.

Saar Gill found that by combining ibrutinib with the GM immune cell therapy they could destroy all traces of the tumour. The results of an early-stage clinical trial were presented at the American Society of Clinical Oncology (ASCO) conference in Chicago.

"Cure is a difficult word," Dr Gill said. "They're not cured — we will know they are cured if they remain cancer-free for a long time. But the majority of patients have no detectable CLL left."

In a second treatment, a technique has been developed that involves taking a blood sample and cultivating T cells, the disease-fighting "ground troops" of the immune system.

The scientists use a virus to smuggle in genetic instructions for finding the leukaemia so the cells make a protein known as a chimeric antigen receptor (CAR). The CAR T cells are infused

back into the veins. The process worked on Mike Brandon, 32, of Bristol, who raised £450,000 for trials in the US.

Nanjing Legend, a Chinese biotechnology company, told the conference that similar effects had been achieved in patients with relapsed multiple myeloma, a bone marrow cancer. Fourteen of 19 participants had no discernible traces of tumour left. Wanhong Zhao, the lead scientist, said it raised the prospect of a cure for myeloma.

Michael Sabel, ASCO's immunotherapy expert, said: "It's rare to see such high response rates, especially for a hard-to-treat cancer."

● Long-term survival could reach 75 per cent of cancer patients within a decade because of new drugs and tests that can spot tumours earlier, academics have said. The UK death rate from all cancers is expected to continue the decline that began in the 1980s, except in types such as pancreatic cancer. David Graham, of ASCO, said that by the late 2020s, 75 per cent of patients could survive for ten years or more.

Times 7.6.17